

NWS FORM E-19 (COVER)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

REPORT ON RIVER GAGE STATION

REVISED, PRINTED DATES: 09/17/2008, 08/22/2010

LOCATION: BEAVER CITY
STREAM: BEAVER CREEK
BASIN: REPUBLICAN 10

HSA: GID

REFERENCES:

NEBRASKA DEPT. OF NATURAL RESOURCES STATION DESCRIPTION - 01/30/2007
REPORT ON FLOODS & FLOOD DAMAGE IN KANSAS CITY COE DISTRICT/JUNE 1965
WATER RESOURCES DATA NE - USGS
WS FORM E-19 - APRIL 1998
WS FORM E-19 - MAY 1991

ABBREVIATIONS:

BM - bench mark	EPA - Environmental Protection Agency
DS - downstream	IBWC - International Boundary and Water Comm.
US - upstream	MSRC - Mississippi River Commission
HW - high water	MORC - Missouri River Commission
LW - low water	NOAA - National Oceanic and Atmospheric Admin.
RB - right bank	NOS - National Ocean Survey
LB - left bank	NWS - National Weather Service
MGL - mean gulf level	TVA - Tennessee Valley Authority
MLW - mean low water	USACE - U.S. Army Corps of Engineers
MSL - mean sea level	USBR - U.S. Bureau of Reclamation
MLT - mean low tide	USGS - U.S. Geological Survey
MT - mean tide	USWB - U.S. Weather Bureau
WQ - water quality	NGVD - National Geodetic Vertical Datum
RM - reference mark	NAD - North American Datum
RP - reference point	

LOCATION IDENTIFICATION: BEVN1
NWS INDEX NUMBER: 25-0641-8
USGS NUMBER: 06847000

MAP OF GAGE LOCATION

LATITUDE: 40 07 12
LONGITUDE: 99 53 35

SOURCE: MAGELLAN GPS

LOCATION: BEAVER CREEK AT BEAVER CITY, NE
ID: BEVN1 HSA: GID

Revised, Printed Dates: 09/17/2008, 08/22/2010
NWS FORM E-19 PAGE 1: GAGE MAP

BENCHMARKS

ELEVATION OF GAGE ZERO: 2164.840 VERTICAL DATUM: NGVD 1988
LEVELING AGENCY AND DATE: LEVEL CHECKBAR: 30.910
RATING AGENCY: USGS

BENCHMARK	DESCRIPTION	GAGE ZERO	DATUM
BMF423	STEEL PIN INSIDE ACCESS DOOR 500 FEET SOUTH OF HIGHWAY BRIDGE ON EAST SIDE OF HIGHWAY OR 100 FEET SOUTH OF FARMSTEAD DRIVE. NOAA MARKER ON THE SPOT. FOUND IN 2002.	31.570	2196.410
RM10	DEPARTMENT OF ROADS BRASS TABLET IN LEFT UPSTREAM GUARDRAIL. FOUND IN 2008.	33.560	2198.400
RM1-7	REFERENCE MARKS 1 THROUGH 7 HAVE BEEN DESTROYED.		
RM8	STANDARD BRASS TABLET SET IN CONCRETE POST 11 FEET DOWNSTREAM FROM WELL. FOUND IN 2008.	11.890	2176.730
RM9	CHISLED SQUARE IN RIGHT DOWNSTREAM BRIDGE GUARDRAIL. FOUND IN 2002.	31.170	2196.010
RP	STANDARD WEIGHT TAPE, ADJUSTABLE RP ON INSTRUMENT SHELF IN WELL HOUSE. FOUND IN 2002.	19.400	2184.240
WW CB	WIRE WEIGHT CHECKBAR LOCATED ON THE CENTER OF THE HIGHWAY BRIDGE ON DOWNSTREAM RAIL. 2002 CHECKBAR READING OF 30.93 (0.01 HIGHER THAN LISTED CHECKBAR ON STATION DESCRIPTION.	30.910	2195.750

LOCATION: BEAVER CREEK AT BEAVER CITY, NE
ID: BEVN1 HSA: GID

Revised, Printed Dates: 09/17/2008, 08/22/2010
NWS FORM E-19 PAGE 2: BENCHMARKS

GAGES

DCP

TELEM

NESS ID: 3472F00A
 OWNER: USBR
 REPORT TIME: 0021
 INTERVAL: 60
 CRITERIA: HG/15 PC/15

TYPE OF TELEMETRY: Other
 OWNER: State DNR
 PHONE NUMBER:
 INTERVAL:

PAYOR/COST OF LINE: Unk / \$

GAGE TYPE	OWNER	MAINTENANCE	BEGAN	ENDED	GAGE LOCATION/REMARKS
wireweight	USGS	USGS	05/18/1937	09/01/1960	USGS ESTABLISHED THE STATION WITH THIS GAGE ON OLD HIGHWAY 283 BRIDGE AT DATUM 2.0 FEET HIGHER THAN PRESENT DATUM.
bubble	USGS	USGS	08/13/1947	11/21/1957	RECORDING GAGE INSTALLED IN A STILLING WELL AND SHELTER AT PRESENT SITE AT DATUM 2.0 FEET HIGHER THAN PRESENT DATUM.
Unk	USGS	USGS	11/21/1957	09/23/1958	TEMPORARY RECORDING GAGE INSTALLED 3.6 MILES UPSTREAM OF PRESENT SITE AT A DIFFERENT DATUM DURING HIGHWAY CONSTRUCTION.
staff	USGS	USGS	09/23/1958	10/23/1958	STAFF GAGE PLACED IN OPERATION AT THE CURRENT SITE AND WAS READ BY THE GEOLOGICAL SURVEY CREW UNTIL THE NEW RECORDING GAGE WAS INSTALLED AT PRESENT SITE.
Unk	USGS	USGS	10/23/1958	04/17/1964	RECORDING GAGE INSTALLED AT PRESENT SITE.
wireweight	State DNR	State DNR	09/01/1960		WIRE WEIGHT GAGE INSTALLED AT PRESENT SITE AT PRESENT DATUM.
Unk	State DNR	State DNR	04/17/1964		DIGITAL PUNCHED TAPE TYPE STAGE RECORDER WAS INSTALLED AT PRESENT GAGE SITE.

LOCATION: BEAVER CREEK AT BEAVER CITY, NE
 ID: BEVN1 HSA: GID

Revised, Printed Dates: 09/17/2008, 08/22/2010
 NWS FORM E-19 PAGE 3: GAGES

HISTORY

PUBLICATION/LOCATION OF RECORDS	STARTING DATE	ENDING DATE
-----	-----	-----
WRD NE	05/18/1937	

TYPE OF GAGE	OWNER	STARTING DATE	ENDING DATE
-----	-----	-----	-----
wireweight	USGS	05/18/1937	09/01/1960
bubble	USGS	08/13/1947	11/21/1957
Unk	USGS	11/21/1957	09/23/1958
staff	USGS	09/23/1958	10/23/1958
Unk	USGS	10/23/1958	04/17/1964
wireweight	State DNR	09/01/1960	
Unk	State DNR	04/17/1964	

ZERO ELEVATION	STARTING DATE
-----	-----
2162.840	08/13/1947
2164.840	06/01/1988

LOCATION: BEAVER CREEK AT BEAVER CITY, NE
ID: BEVN1 HSA: GID

Revised, Printed Dates: 09/17/2008, 08/22/2010
NWS FORM E-19 PAGE 4: HISTORY

CRESTS

FLOOD STAGE: 11.00 ACTION STAGE: 10.00 BANKFULL STAGE: 11.00
 FLOOD FLOW: 810 ACTION FLOW: 590

DATE OF CREST	TIME LST	CREST (ft)	FLOW (CFS)	FROM HIGH WATERMARKS	BASED ON OLD DATUM	CAUSED BY ICE JAM	REMARKS
08/03/1937	UNDEF	-0.99	1670				
07/16/1938	UNDEF	-0.99	550				
05/26/1939	UNDEF	-0.99	1140				
09/24/1940	UNDEF	-0.99	600				
06/08/1941	UNDEF	-0.99	850				
08/02/1942	UNDEF	-0.99	1450				
04/11/1943	UNDEF	-0.99	510				
07/19/1944	UNDEF	13.80	3800				
07/12/1945	UNDEF	-0.99	282				
05/30/1946	UNDEF	-0.99	454				
06/22/1947	UNDEF	13.22	3140				
06/23/1948	UNDEF	11.37	1240				
05/06/1949	UNDEF	-0.99	1620				
07/26/1950	UNDEF	-0.99	2400				
07/17/1951	UNDEF	12.60	2430				
05/16/1952	UNDEF	-0.99	800				
07/20/1953	UNDEF	-0.99	388				
08/17/1954	UNDEF	-0.99	451				
07/16/1955	UNDEF	-0.99	29				
07/12/1956	UNDEF	-0.99	202				
06/16/1957	UNDEF	-0.99	1640				
08/21/1958	UNDEF	-0.99	290				
02/24/1959	UNDEF	4.60				X	
06/04/1959	UNDEF	4.40	184				
06/13/1960	UNDEF	12.97	2810				
06/05/1961	UNDEF	9.17	726				
08/08/1962	UNDEF	7.60	532				
06/19/1963	UNDEF	11.52	1270				
06/14/1964	UNDEF	7.28	494				
06/14/1965	UNDEF	12.46	2090				
06/23/1966	UNDEF	10.88	1160				
06/14/1967	UNDEF	7.33	452				
06/25/1968	UNDEF	3.81	85				
05/22/1969	UNDEF	5.87	253				
06/11/1970	UNDEF	5.68	209				
06/09/1971	UNDEF	5.21	200				
06/22/1972	UNDEF	4.15	97				
07/27/1973	UNDEF	3.74	75				
06/14/1974	UNDEF	5.29	189				
06/21/1975	UNDEF	6.65	219				
04/08/1976	UNDEF	3.61	41				
05/24/1977	UNDEF	4.80	97				
03/10/1978	UNDEF	2.89	19				
08/27/1979	UNDEF	7.80	330				
06/02/1980	UNDEF	2.73	16				

LOCATION: BEAVER CREEK AT BEAVER CITY, NE
 ID: BEVNI HSA: GID

Revised, Printed Dates: 09/17/2008, 08/22/2010
 NWS FORM E-19 PAGE 5: CRESTS

DATE OF CREST	TIME LST	CREST (ft)	FLOW (CFS)	FROM HIGH WATERMARKS	BASED ON OLD DATUM	CAUSED BY ICE JAM	REMARKS
08/01/1981	UNDEF	6.80	232				
01/26/1982	UNDEF	2.90				X	
02/18/1982	UNDEF	2.89	17			X	
06/14/1983	UNDEF	15.68	9510				
04/21/1984	UNDEF	3.46	14				
08/13/1985	UNDEF	3.55	18				
05/09/1986	UNDEF	9.14	515				
10/09/1986	UNDEF	3.91	27				
01/19/1988	UNDEF	3.20	10				ACTUAL CFS WAS 9.7.
07/09/1989	UNDEF	4.53	44				
08/19/1990	UNDEF	3.58	18				
05/30/1991	UNDEF	3.29	12				
08/07/1992	UNDEF	5.92	109				
03/09/1993	UNDEF	5.72	96				
03/09/1994	UNDEF	5.72	96				
07/21/1994	UNDEF	4.52	52				
05/28/1995	UNDEF	4.65	58				
08/22/1996	UNDEF	10.06	601				
06/26/1997	UNDEF	8.95	439				
08/02/1998	UNDEF	3.87	35				
06/29/1999	UNDEF	6.25	90				
07/23/2000	UNDEF	6.71	193				
03/09/2001	UNDEF	3.29	19				
05/17/2002	UNDEF	3.51	22				
10/03/2002	UNDEF	2.78	5				ACTUAL FLOW WAS 5.1 CFS.
07/11/2004	UNDEF	3.11	3				ACTUAL FLOW WAS 3.1 CFS.
08/17/2005	UNDEF	3.09	10				9.64 CFS is the actual flow.
07/13/2006	UNDEF	5.21	60				
05/22/2007	UNDEF	6.49	95				
05/24/2008	14:00	7.91	310				Peak discharge and gage height for the year.

LOCATION: BEAVER CREEK AT BEAVER CITY, NE
ID: BEVN1 HSA: GID

Revised, Printed Dates: 09/17/2008, 08/22/2010
NWS FORM E-19 PAGE 5-2: CRESTS

LOW WATER RECORDS

DATE OF LOW WATER	STAGE (ft)	FLOW (CFS)	REMARKS
09/29/1994		0	ACTUAL FLOW WAS .09 CFS
09/30/1994		0	ACTUAL FLOW WAS 0.09 CFS.
09/17/1995		0	ACTUAL FLOW WAS .2 CFS
09/18/1995		0	ACTUAL FLOW WAS .2 CFS
05/21/1996		1	ACTUAL FLOW WAS 0.65 CFS
09/19/1997		0	ACTUAL FLOW WAS 0.48 CFS
09/21/1998		0	ACTUAL FLOW WAS 0.17 CFS
09/25/1999		0	ACTUAL FLOW WAS .26 CFS
09/26/1999		0	ACTUAL FLOW WAS .26 CFS
09/30/2000		0	ACTUAL FLOW WAS 0.08 CFS
07/16/2001		0	ACTUAL FLOW WAS .03 CFS
07/17/2001		0	ACTUAL FLOW WAS .03 CFS
07/18/2001		0	ACTUAL FLOW WAS .03 CFS
09/05/2002		0	0 FLOW FROM 9/5 TO 9/12 OF 2002
08/17/2003		0	8/17 TO 8/19 2002 0 CFS FLOW
01/17/2005		0	8/3-11,16/2005 0.1 CFS FLOW
07/08/2006		0	07/09-10/2006 Actual flow 0.01 CFS
10/04/2006		0	Actual minimum daily discharge was 0.06 cfs.

LOCATION: BEAVER CREEK AT BEAVER CITY, NE
ID: BEVN1 HSA: GID

Revised, Printed Dates: 09/17/2008, 08/22/2010
NWS FORM E-19 PAGE 6: LOW WATER

CONDITIONS AFFECTING FLOW

MILES ABOVE MOUTH: 25.5 DRAINAGE AREA: 2081.0 POOL STAGE: 0.0

STREAM BED: COMPOSED MAINLY OF SILT

REACH: A FEW MILES UPSTREAM AND DOWNSTREAM OF GAGE.

REGULATION: NONE.

DIVERSION: SEVERAL SMALL PUMP DIVERSIONS ABOVE STATION FOR IRRIGATION.

WINTER: CHANNEL SUBJECT TO FREEZING DURING WINTER, MAINLY NOTED IN
STREAM BELOW GAGE.

TOPOGRAPHY: CHANNEL IS CURVED ABOVE AND BELOW GAGE. BANKS ARE STEEP AND
COVERED WITH HEAVY GROWTH OF BRUSH AND TREES AT TOP OF
BANKS. STREAM BED COLLECTS LARGE DEPOSITS OF LEAVES,
TUMBLEWEEDS, ETC., DURING THE FALL CAUSING LARGE NEGATIVE
SHIFTS.

REMARKS:

LOCATION: BEAVER CREEK AT BEAVER CITY, NE
ID: BEVN1 HSA: GID

Revised, Printed Dates: 09/17/2008, 08/22/2010
NWS FORM E-19 PAGE 7: CONDITIONS

DAMAGE	
STAGE	AREAS AFFECTED
11.00	RURAL AGRICULTURE LAND ADJACENT TO THE CREEK WILL FLOOD.
13.00	LOWLAND FLOODING WILL SPREAD INTO CROP AND PASTURE LAND.
15.00	FLOODING WILL SPREAD BEYOND PASTURES AND FARMLAND...AND WATER MAY OVERFLOW THE COUNTY ROAD UPSTREAM FROM THE HIGHWAY.

Revised, Printed Dates: 09/17/2008, 08/22/2010
NWS FORM E-19 PAGE 8: DAMAGE

RIVER STAGE DATA

	18-	

	16-	
	-----	15.68 06/14/1983

15.00 - FLOODING WILL SPREAD BEYOND PASTURES AND FARMLAND...AND WATER MAY OVERLOW THE COUNTY ROAD UPSTREAM FROM THE HIGHWAY.	-----	
	14-	
	-----	13.80 07/19/1944
	-----	13.22 06/22/1947
13.00 - LOWLAND FLOODING WILL SPREAD INTO CROP AND PASTURE LAND.	-----	12.97 06/13/1960
	-----	12.60 07/17/1951
	12-	

	-----	11.52 06/19/1963
11.00 - RURAL AGRICULUTURE LAND ADJACENT TO THE CREEK WILL FLOOD.	-----	10.88 06/23/1966

	10-	10.06 08/22/1996

	-----	9.17 06/05/1961
	8-	
	-----	7.91 05/24/2008
	-----	7.60 08/08/1962

	-----	6.80 08/01/1981
	6-	6.25 06/29/1999
	-----	5.92 08/07/1992
	-----	5.29 06/14/1974

	-----	4.80 05/24/1977
	4-	4.40 06/04/1959
	-----	3.91 10/09/1986
	-----	3.58 08/19/1990
	-----	3.20 01/19/1988
	-----	2.78 10/03/2002
	2-	

	0-	

	-----	-0.99 08/03/1937

	-2-	

REACH: A FEW MILES UPSTREAM AND DOWNSTREAM OF GAGE.

ELEVATION ZERO: 2164.84

LOCATION: BEAVER CREEK AT BEAVER CITY, NE

ID: BEVN1

HSA: GID

Revised, Printed Dates: 09/17/2008, 08/22/2010

NWS FORM E-19 PAGE 9: STAFF

CONTACTS

SQ	CONTACT/REMARKS	PHONE
1	Rodger Powell	308-268-5088
	CELL PHONE: 308-962-6758	
2	NDNR CAMBRIDGE OFFICE	308-697-3730
	MAINTENANCE.	

LOCATION: BEAVER CREEK AT BEAVER CITY, NE
ID: BEVN1 HSA: GID

Revised, Printed Dates: 09/17/2008, 08/22/2010
NWS FORM E-19 PAGE 10: CONTACTS